

Remarks

Claims 1-21 are pending in the present application and are rejected.

Claims 1, 13, and 21 are amended to include the limitation "wherein proximity between oxidizing components and trapping components are optimized to maximize spillover."

1. Rejections Under 35 U.S.C. §102(b)

Claims 1-21 are rejected under 35 U.S.C. §102(b) as being anticipated by Chen (U.S. Pat. No. 6,777,370).

Applicants have amended claims 1, 13, and 21 to include the limitation "wherein proximity between oxidizing components and trapping components is optimized to maximize spillover." This limitation is significant in that it provides a detail for improving the efficiency and overall operation of the NO_x trap of the invention. The Specification explains that the precious metal and the stabilizing are calcined together to provide for such proximity:

The Precious metal and stabilizing oxide are then individually calcined together to optimize the proximity between the oxidizing components (NO to NO₂) and trapping components. If these components are either too close or too far apart, a lower oxidation activity or a trapping efficiency is obtained. Similarly, it is desirable to have the NO_x absorber material (i.e., Ba) and the stabilizing oxide (e.g., Mg) close to each other so that the boundary effects (of Mg) promote defects density and hence maximize spillover. "Spillover" as used herein refers to the transfer of oxygen atoms from the precious metal to the trapping element to convert the (barium) nitrite to (barium) nitrate or the transfer of NO_x species from the precious metal to the trapping element.

Review of Chen reveals that such control of the proximity between oxidized and components and tracking components is not appreciated. Moreover, review of the methods and examples

disclosed in Chen further support Chen's failure to appreciate this important feature of independent claims 1, 13, and 21 as amended.

Accordingly, claims 1-21 are allowable under 35 U.S.C. §102(b) over Chen.

Claims 1-21 are rejected under 35 U.S.C. §102(b) as being anticipated by Pott (U.S. Pat. No. 5,922,142).

Applicants respectfully traverse the Examiner's rejection over Pott for the following reasons. Pott does not disclose the use of an oxide in a NO_x trap that inhibits the decrease in storage ability of the NO_x trap. The Examiner has apparently confused the inclusion of cerium oxide with such oxides as in the present invention of which magnesium oxide and magazines oxide are exemplary. The passage quoted by the Examiner allegedly providing examples of magnesium and magnesium oxide is reproduced below:

The downstream washcoat layer 35 has the same structure but it additionally contains cerium in the form of cerium oxide, with a cerium content preferably amounting to at least 1 g/ft.^{sup.3} and desirably in the range from 3 g/ft.^{sup.3} to 8 g/ft.^{sup.3}. By providing the upstream converter 5, the storage catalytic converter 7 can be constructed with an . . .

Pott, col. 12, ll. 62-67

Clearly, that passage has nothing to do with magnesium and manganese oxide. Instead, cited passage deals with cerium oxide. Accordingly, for at least this reason, claims 1-21 are allowable under 35 U.S.C. §102(b) over Pott.

Notwithstanding the argument set forth above regarding Pott, claims 1-21 are allowable for the following reason. Applicants have amended independent claims 1, 13, and 21 to include limitation "wherein proximity between oxidizing components and trapping components are optimized to maximize spillover." Review of Pott reveals that such control of the proximity between oxidized and components and tracking components is not appreciated.

Moreover, review of the methods disclosed in Pott further support Pott's failure to appreciate this important feature of independent claims 1, 13, and 21 as amended. Accordingly, claims the rule 1-21 are allowable under 35 U.S.C. §102(b) over Pott.


Conclusion

Applicants have made a genuine effort to respond to each of the Examiner's rejections in advancing the prosecution of this case. Applicants believe that all formal and substantive requirements for patentability have been met and that this case is in condition for allowance, which action is respectfully requested. If a telephone or video conference would help expedite allowance or resolve any additional questions, such a conference is invited at the Examiner's convenience.

The Examiner is authorized to charge any additional fees or credits as a result of the filing of this paper to Ford Global Technologies, Inc. Deposit Account No. 06-1510 as authorized by the original transmittal letter in this case. If a telephone or video conference would help expedite allowance or resolve any additional questions, such a conference is invited at the Examiner's convenience.

Respectfully submitted,

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